User Manual

Suspension Control Module
32 221 0099

Read Before Installation

Warning:

This Lowering Module should be installed by an individual with extensive knowledge in electronics, including: wire identification, extracting and inserting pins from connector housing.

We are not responsible for any damage to the Lowering Module or related devices due to improper installation.

Ride Height:

To retain proper ride comfort and to avoid damage to suspension components please follow these minimum recommended height adjustments:

All non-AMG Mercedes models should use a setting of 3 or higher.

AMG cars are lower than their Mercedes counterparts. With this in mind it is recommended that AMG cars use a ride height setting of 5 or higher.

Lower settings can be used for show purposes but are not recommended for everyday driving.

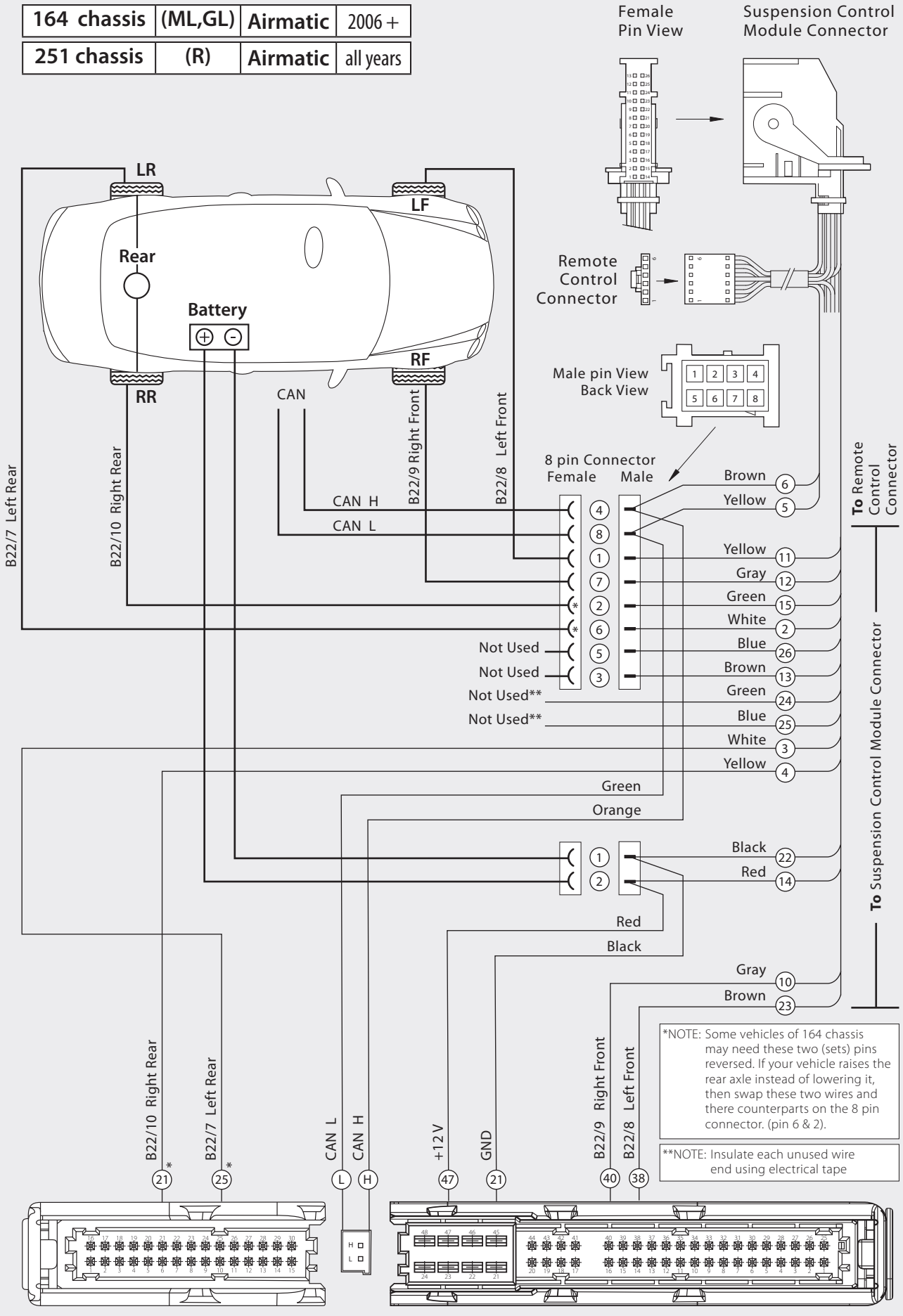
In some models the door must be closed in order for the Airmatic or ABC system to operate. This is a safety function and is normal on those vehicles.

Technical Support:

For further information, please contact

Read Before Installation		2
164 chassis (ML, GL) [2006+] **251 chassis (R) [all years]**	Airmatic	5
211 chassis (E) [2003 till 04/2006] **219 chassis (CLS) [till 04/2006]** **220 chassis (S) [2000–2006]** NOTE: vehicles with 4-wire level sensor	Airmatic	8
211 chassis (E) [2003 from 05//2006] **219 chassis (CLS) [from 05/2006]** **221 chassis (S) [2007+]** NOTE: vehicles with 3-wire level sensor	Airmatic	12
215 chassis (CL) [2006+] **216 chassis (CL) [2007+]** **220 chassis (S) [2000–2006]** **221 chassis (S) [2007+]**	ABC	15
230 chassis (SL) [2003+]	ABC	19
Ride Height Adjustment		22
Vehicle's Connector Preparation		24

164 chassis	(ML,GL)	Airmatic	2006 +
251 chassis	(R)	Airmatic	all years



Airmatic Harness, Female Pin View

STEP-BY-STEP INSTALLATION

164 chassis: Airmatic (N51) control unit

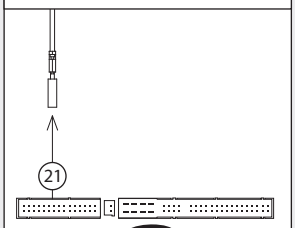
Left front footwell (under the seat)

251 chassis: Airmatic (N51) with ADS

Right front footwell (under passenger seat)

Refer to Vehicle's Connector Preparation for pin removal - see pages 24-25.

SEPARATE PIN FROM CAR HARNESS CONNECTOR



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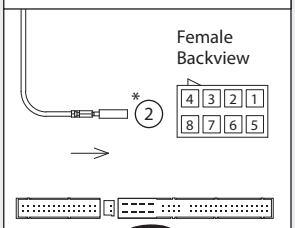

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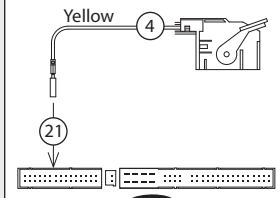

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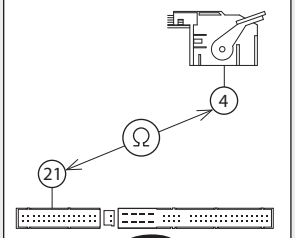

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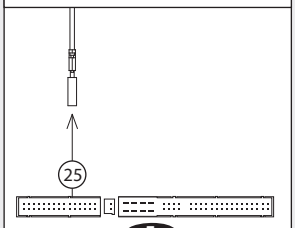

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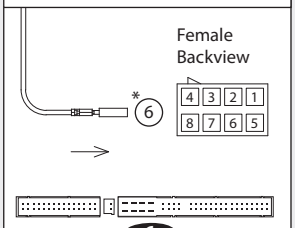

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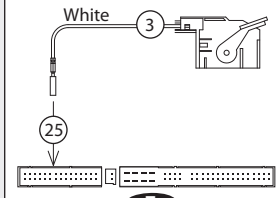
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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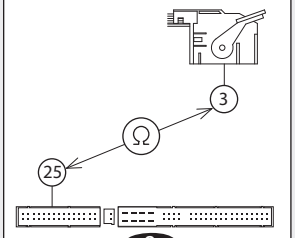

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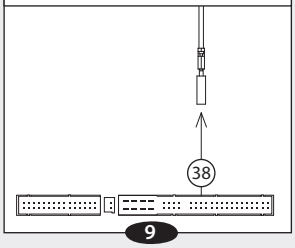

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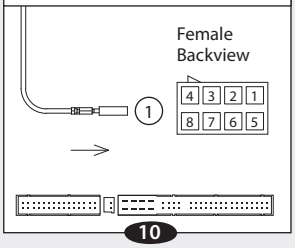

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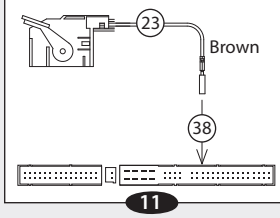

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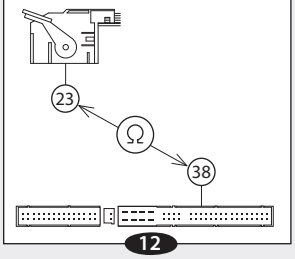

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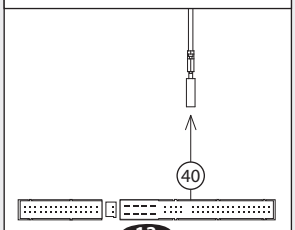

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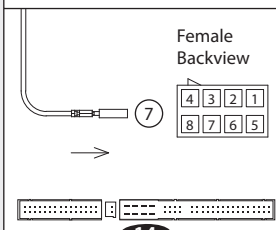

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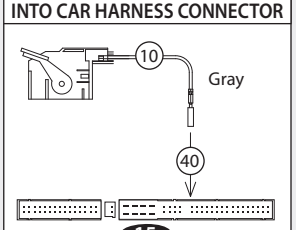

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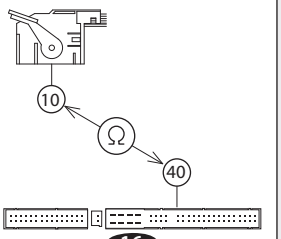

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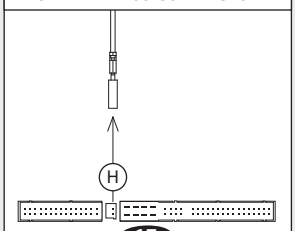
SEPARATE PIN FROM CAR HARNESS CONNECTOR



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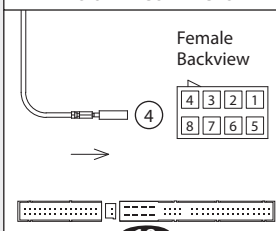

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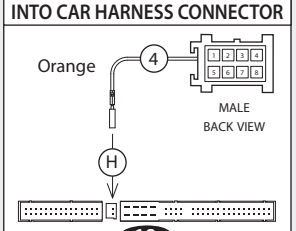

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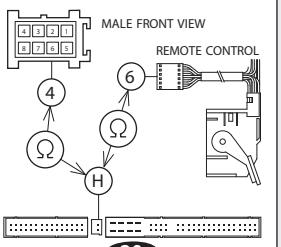

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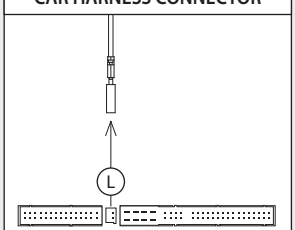

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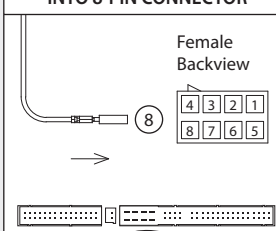

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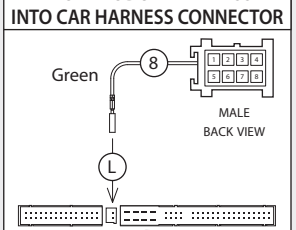

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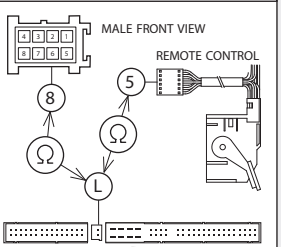

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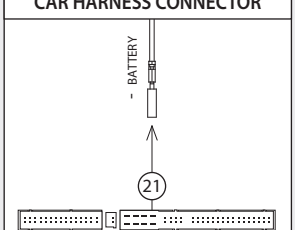
SEPARATE PIN FROM CAR HARNESS CONNECTOR



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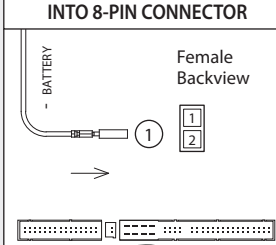

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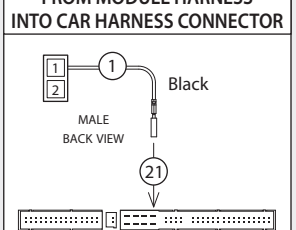
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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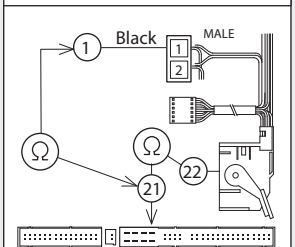

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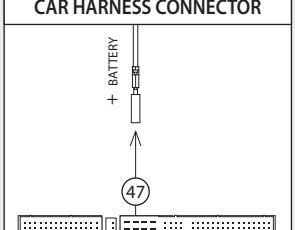
SEPARATE PIN FROM CAR HARNESS CONNECTOR



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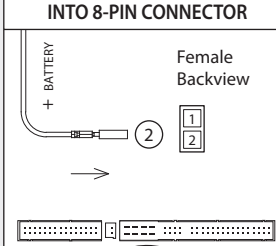
INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



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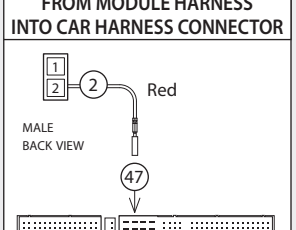
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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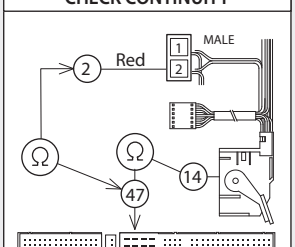


32

Unscrew the Suspension Module screws and remove the cover

33

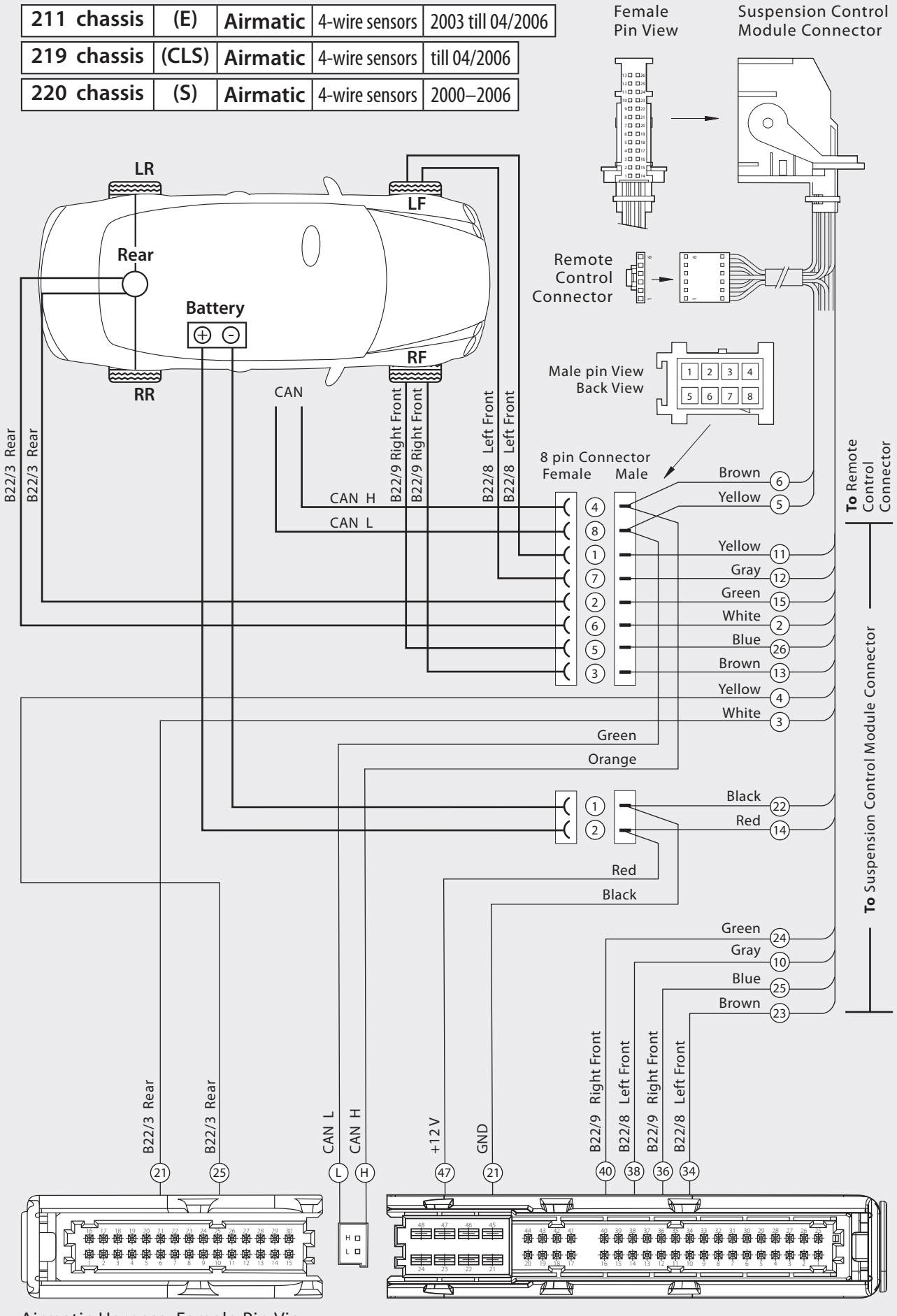
Rotate the Function Switch (black button) to position 2

34

To continue, go to Height Adjustment chapter

35

211 chassis	(E)	Airmatic	4-wire sensors	2003 till 04/2006
219 chassis	(CLS)	Airmatic	4-wire sensors	till 04/2006
220 chassis	(S)	Airmatic	4-wire sensors	2000–2006



Airmatic Harness, Female Pin View

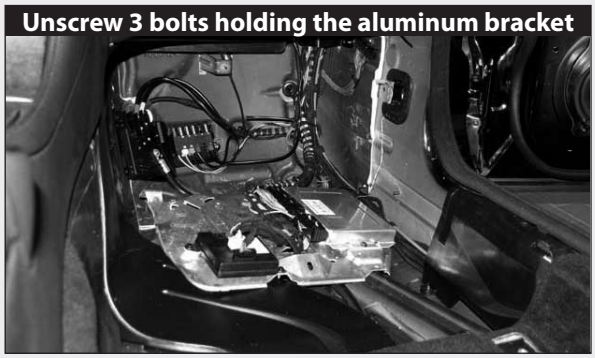
STEP-BY-STEP INSTALLATION

Disconnect the Battery

Right front upper footwell

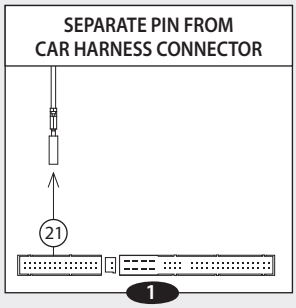
Pull the carpet back

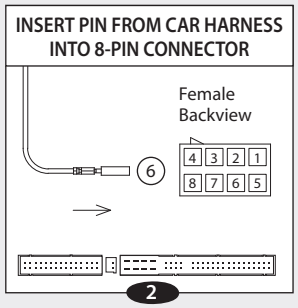
Unscrew 3 bolts holding the aluminum bracket

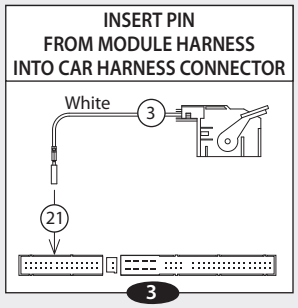


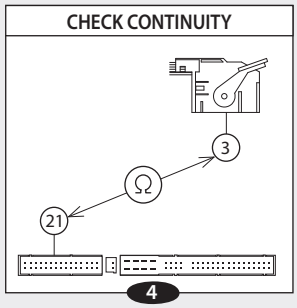
Airmatic (N51) with ADS

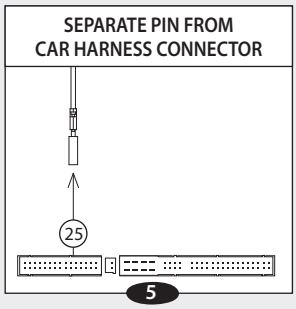
Refer to Vehicle's Connector Preparation for pin removal - see pages 24-25.

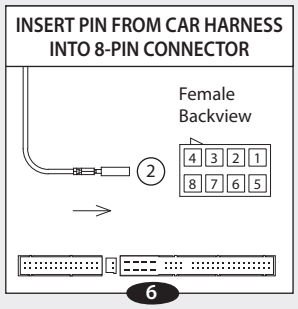


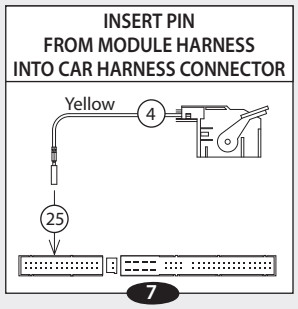


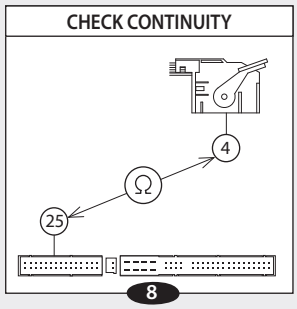


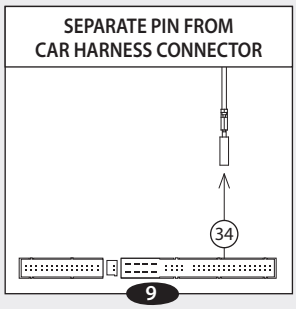


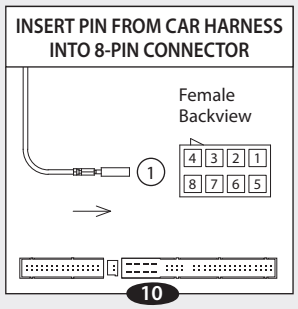


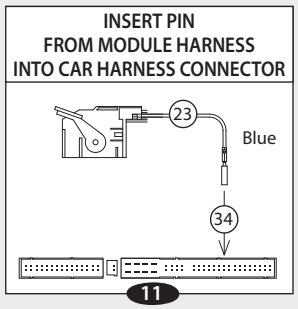


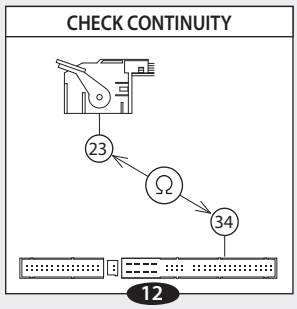


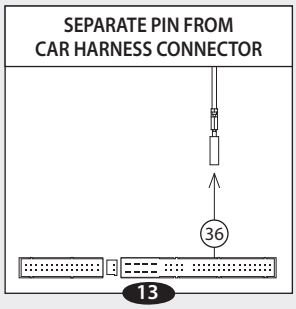


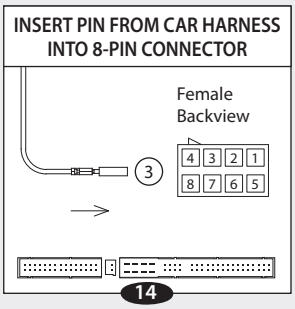


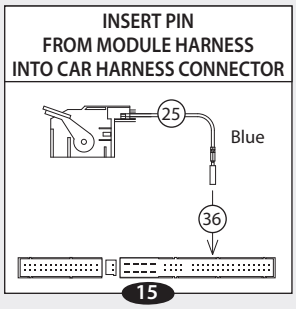


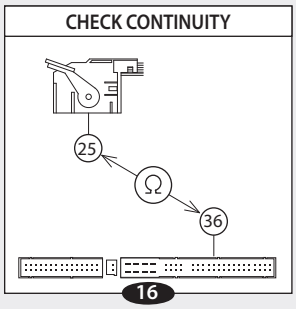


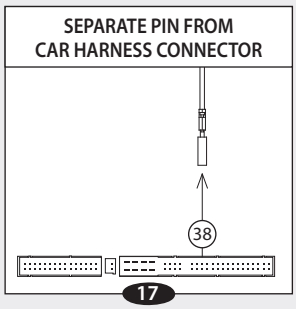


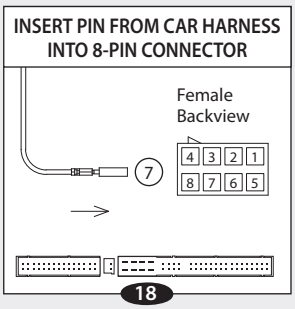

SEPARATE PIN FROM
CAR HARNESS CONNECTOR
36
13

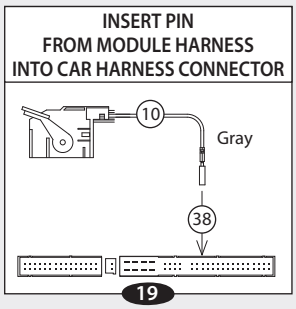

INSERT PIN FROM CAR HARNESS
INTO 8-PIN CONNECTOR
Female
Backview
4 3 2 1
8 7 6 5
3
14

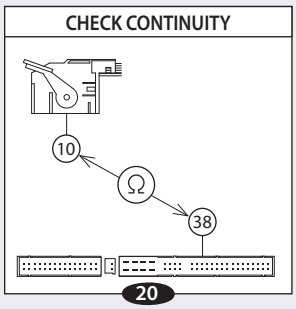

INSERT PIN
FROM MODULE HARNESS
INTO CAR HARNESS CONNECTOR
25
Blue
36
15

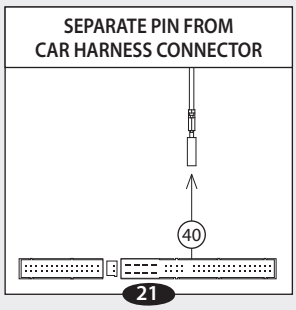

CHECK CONTINUITY
25
Ω
36
16

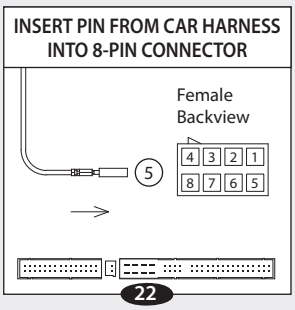

SEPARATE PIN FROM
CAR HARNESS CONNECTOR
38
17

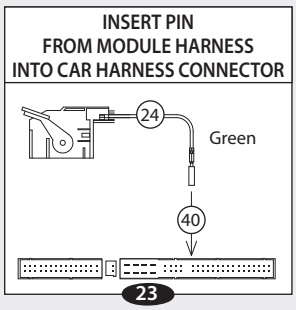

INSERT PIN FROM CAR HARNESS
INTO 8-PIN CONNECTOR
Female
Backview
4 3 2 1
8 7 6 5
7
18

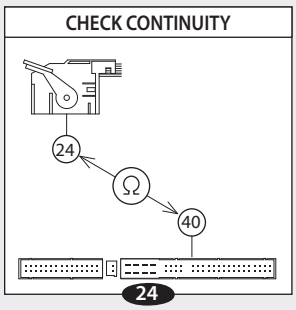

INSERT PIN
FROM MODULE HARNESS
INTO CAR HARNESS CONNECTOR
10
Gray
38
19

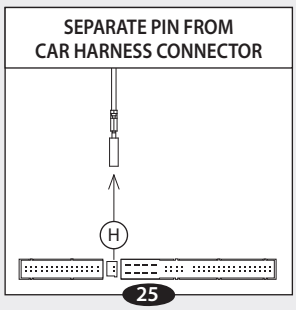

CHECK CONTINUITY
10
Ω
38
20

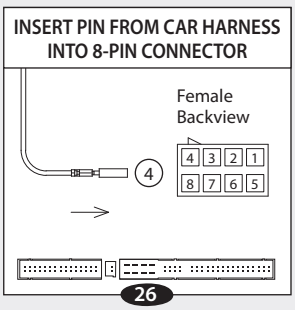

SEPARATE PIN FROM
CAR HARNESS CONNECTOR
40
21

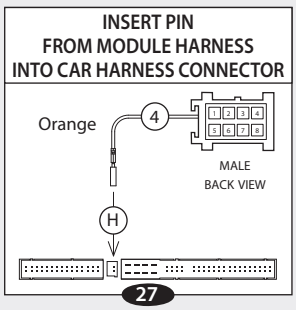

INSERT PIN FROM CAR HARNESS
INTO 8-PIN CONNECTOR
Female
Backview
4 3 2 1
8 7 6 5
5
22

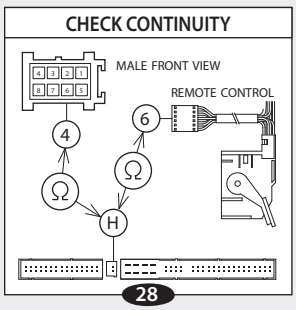

INSERT PIN
FROM MODULE HARNESS
INTO CAR HARNESS CONNECTOR
24
Green
40
23

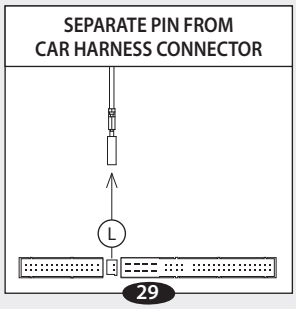

CHECK CONTINUITY
24
Ω
40
24

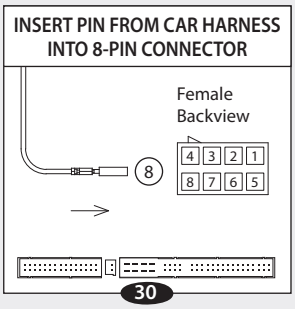

SEPARATE PIN FROM
CAR HARNESS CONNECTOR
H
25

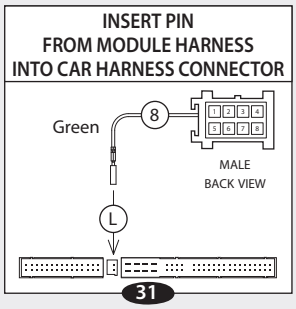

INSERT PIN FROM CAR HARNESS
INTO 8-PIN CONNECTOR
Female
Backview
4 3 2 1
8 7 6 5
4
26

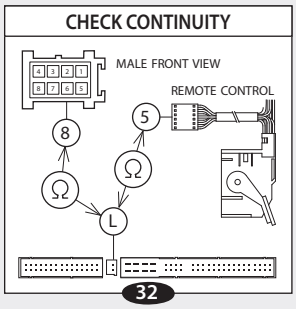

INSERT PIN
FROM MODULE HARNESS
INTO CAR HARNESS CONNECTOR
Orange
4
MALE
BACK VIEW
H
27

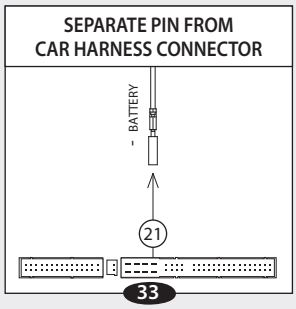

CHECK CONTINUITY
MALE FRONT VIEW
REMOTE CONTROL
6
4
Ω
Ω
H
28

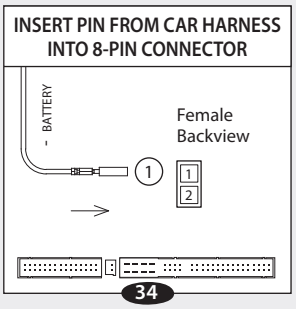

SEPARATE PIN FROM
CAR HARNESS CONNECTOR
L
29

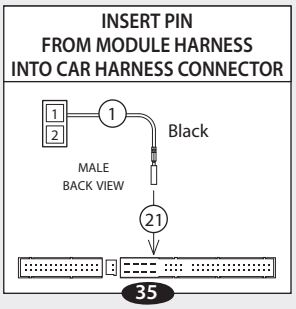

INSERT PIN FROM CAR HARNESS
INTO 8-PIN CONNECTOR
Female
Backview
4 3 2 1
8 7 6 5
8
30

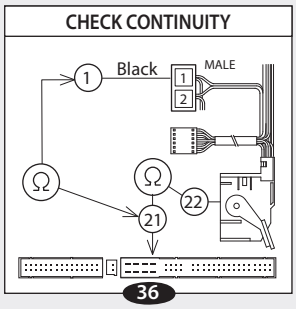

INSERT PIN
FROM MODULE HARNESS
INTO CAR HARNESS CONNECTOR
Green
8
MALE
BACK VIEW
L
31

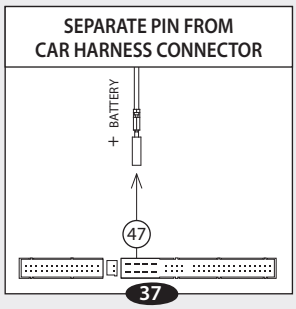

CHECK CONTINUITY
MALE FRONT VIEW
REMOTE CONTROL
5
8
Ω
Ω
L
32

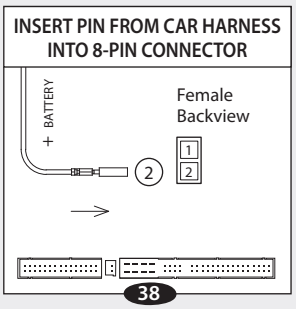


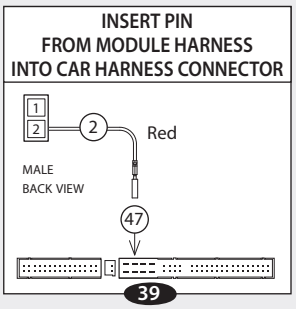


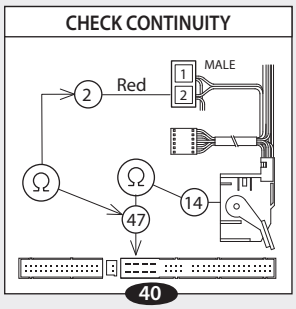












Unscrew the Suspension Module screws and remove the cover

41

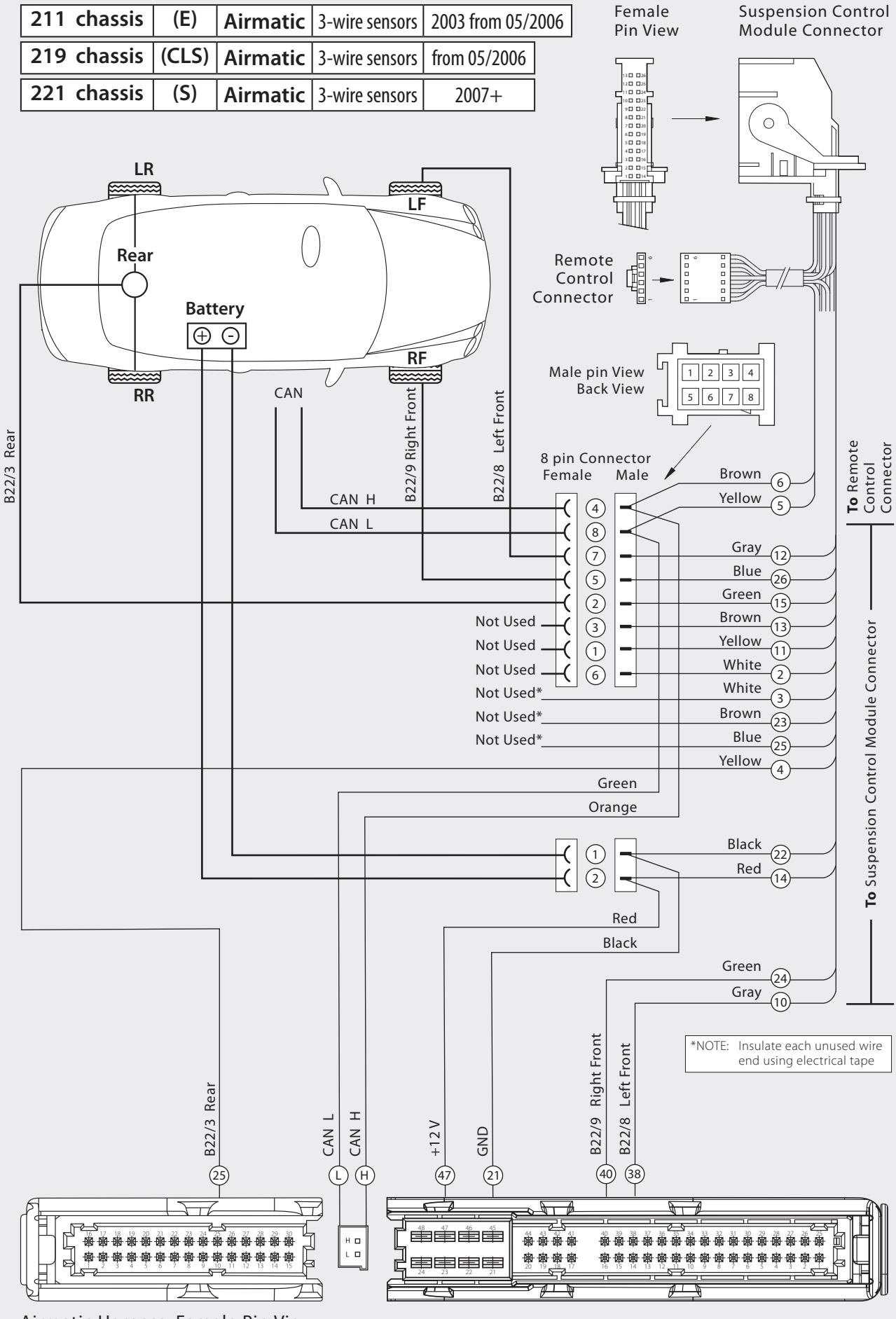
Rotate the Function Switch (black button) to position 1

42

To continue, go to Height Adjustment chapter

43

211 chassis	(E)	Airmatic	3-wire sensors	2003 from 05/2006
219 chassis	(CLS)	Airmatic	3-wire sensors	from 05/2006
221 chassis	(S)	Airmatic	3-wire sensors	2007+



Airmatic Harness, Female Pin View

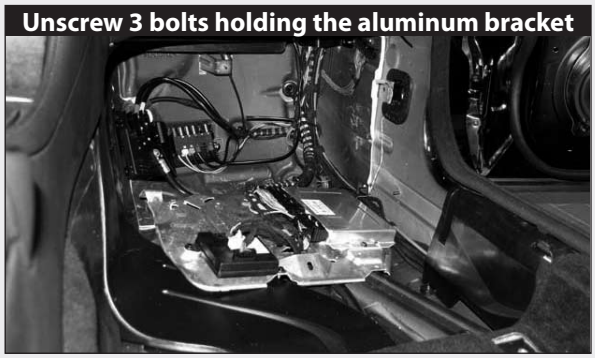
STEP-BY-STEP INSTALLATION

Disconnect the Battery

Right front upper footwell

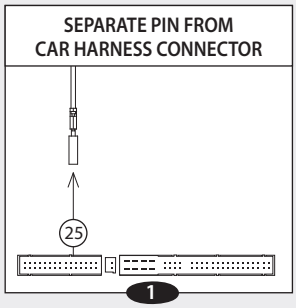
Pull the carpet back

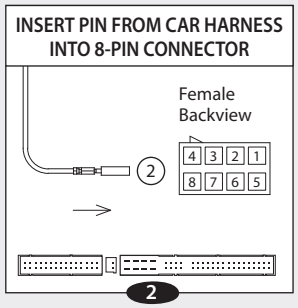
Unscrew 3 bolts holding the aluminum bracket

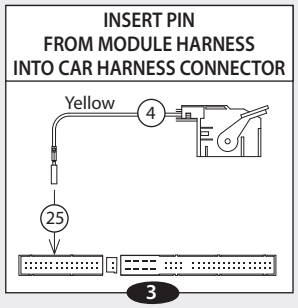


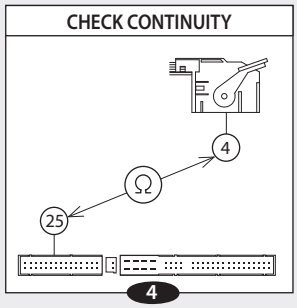
Airmatic (N51) with ADS

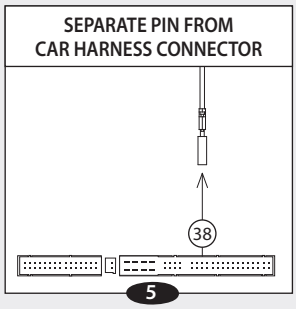
Refer to Vehicle's Connector Preparation for pin removal - see pages 24-25.

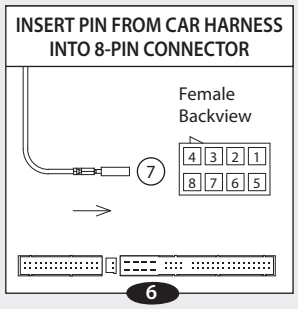


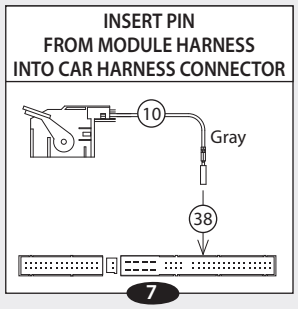


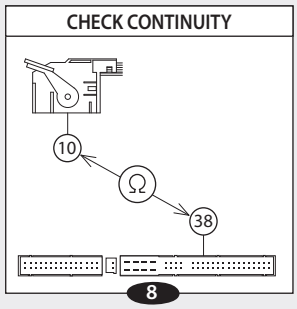


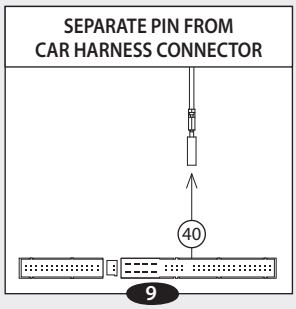


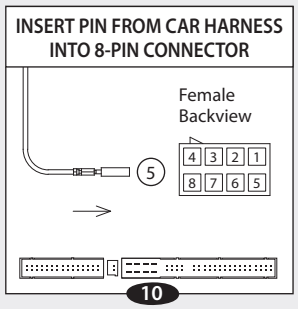


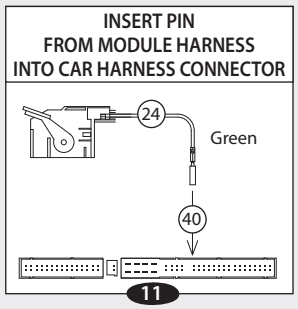


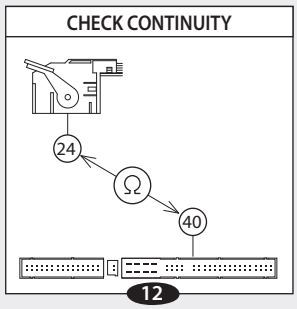




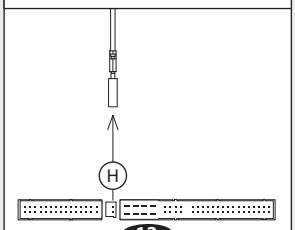






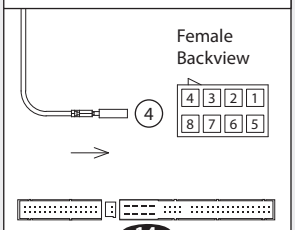


SEPARATE PIN FROM CAR HARNESS CONNECTOR



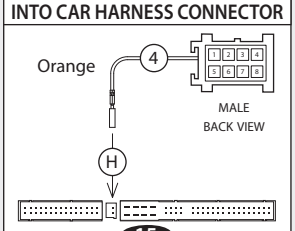
13

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



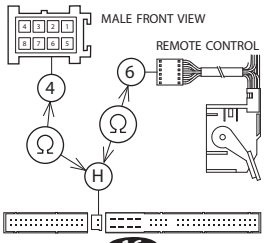
14

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



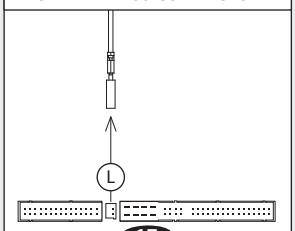
15

CHECK CONTINUITY



16

SEPARATE PIN FROM CAR HARNESS CONNECTOR



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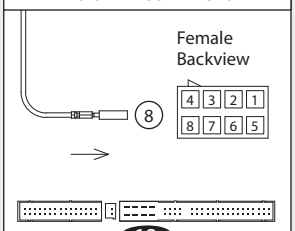
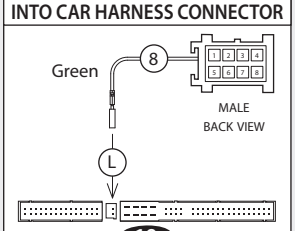
INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



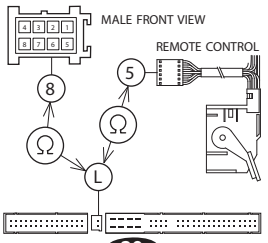
18

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



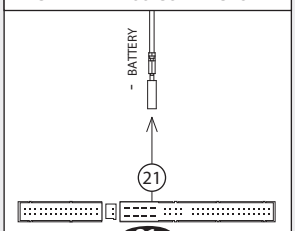
19

CHECK CONTINUITY



20

SEPARATE PIN FROM CAR HARNESS CONNECTOR



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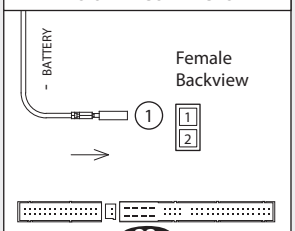
INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



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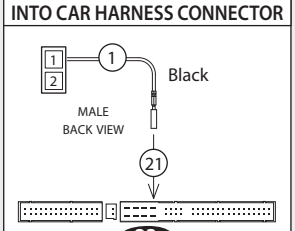
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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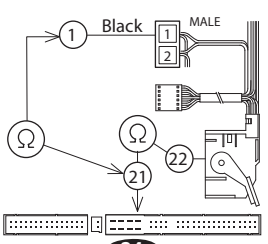
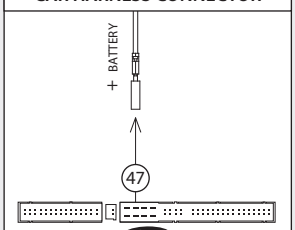
CHECK CONTINUITY



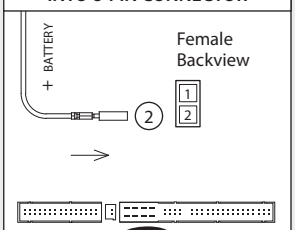
24

SEPARATE PIN FROM CAR HARNESS CONNECTOR



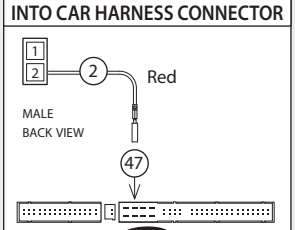
25

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



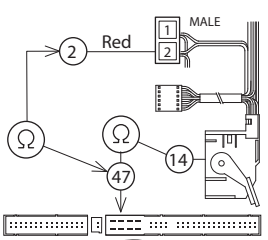
26

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



27

CHECK CONTINUITY



28

Unscrew the Suspension Module screws and remove the cover

29

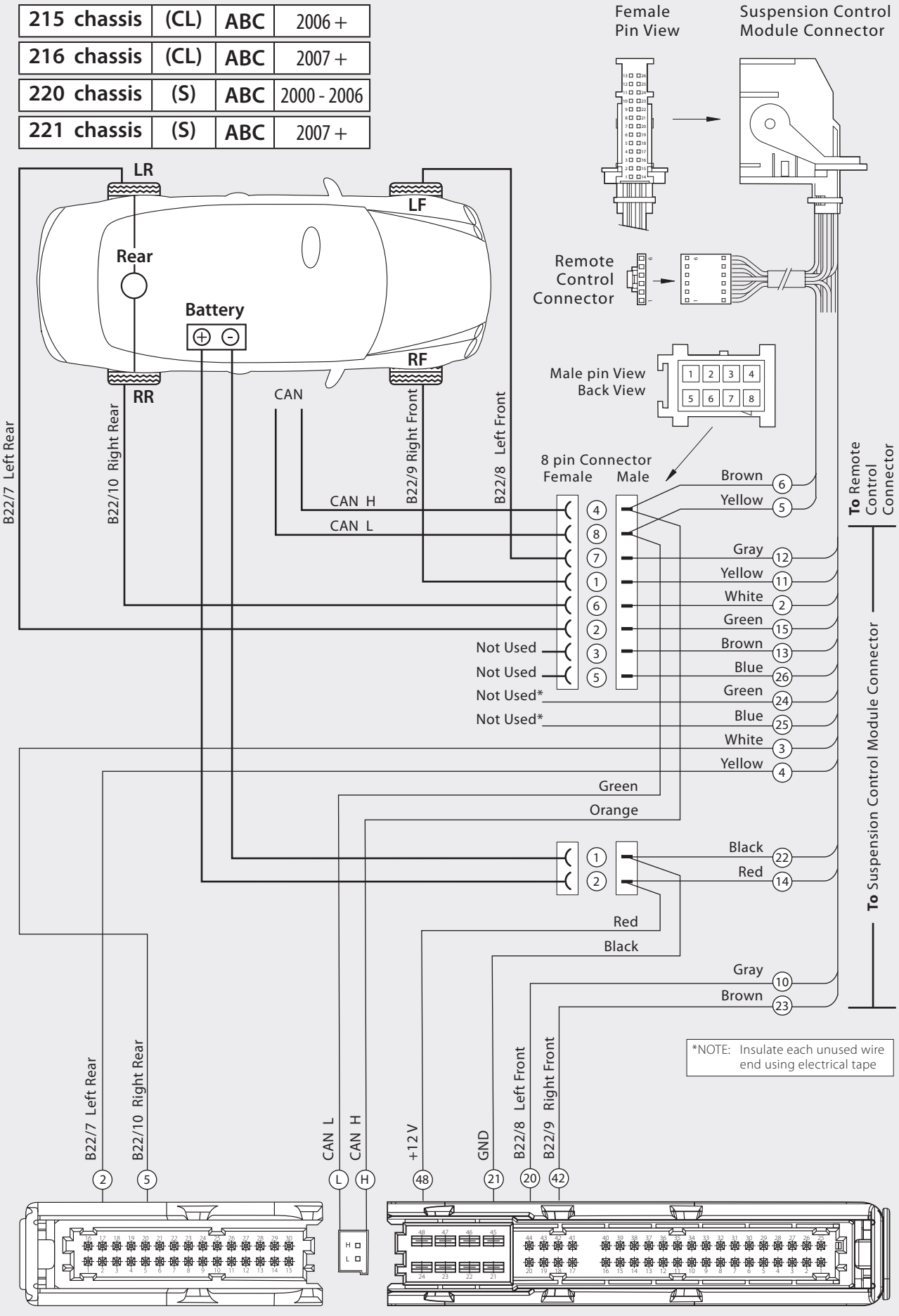
Rotate the Function Switch (black button) to position 1

30

To continue, go to Height Adjustment chapter

31

215 chassis	(CL)	ABC	2006 +
216 chassis	(CL)	ABC	2007 +
220 chassis	(S)	ABC	2000 - 2006
221 chassis	(S)	ABC	2007 +



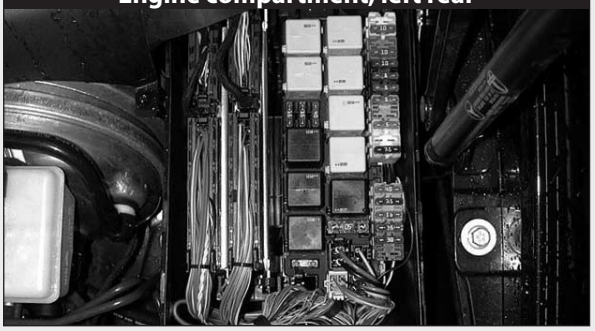
Airmatic Harness, Female Pin View

STEP-BY-STEP INSTALLATION

Disconnect the Battery

215 chassis: ABC (N51/2) active body control

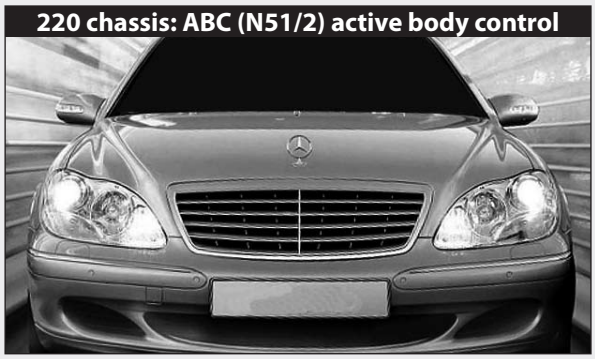
Engine compartment, left rear



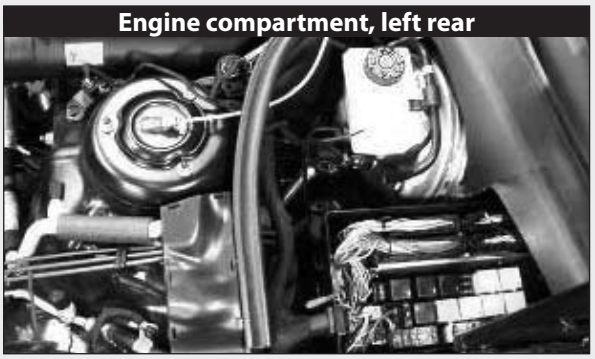
216 chassis: ABC (N51/2) active body control

Interior, right front upper footwell

220 chassis: ABC (N51/2) active body control



Engine compartment, left rear



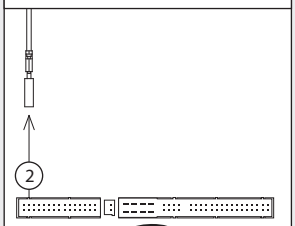
Shown on 220 S350

221 chassis: ABC (N51/2) active body control

Interior, right front upper footwell

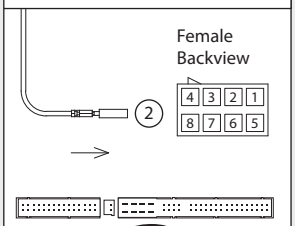
Refer to Vehicle's Connector Preparation for pin removal - see pages 24-25.

SEPARATE PIN FROM CAR HARNESS CONNECTOR



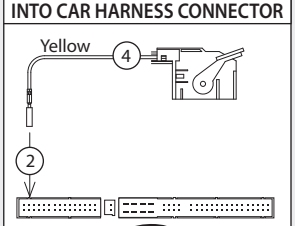
1

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



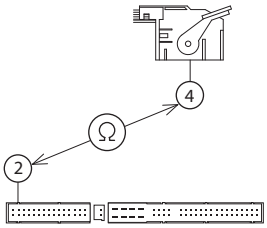
2

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



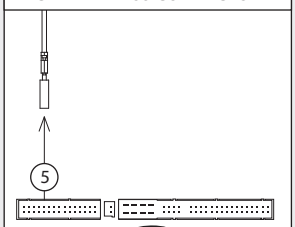
3

CHECK CONTINUITY



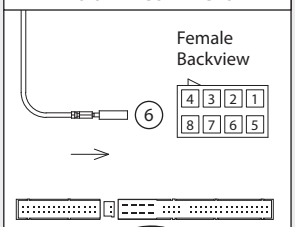
4

SEPARATE PIN FROM CAR HARNESS CONNECTOR



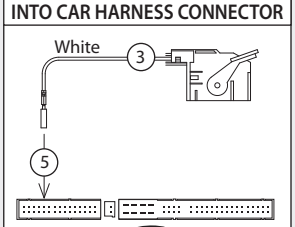
5

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



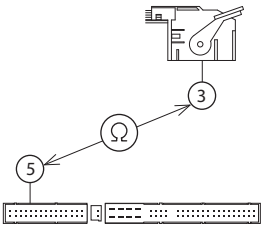
6

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



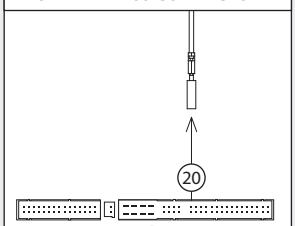
7

CHECK CONTINUITY



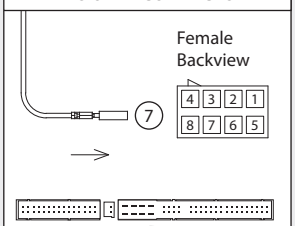
8

SEPARATE PIN FROM CAR HARNESS CONNECTOR



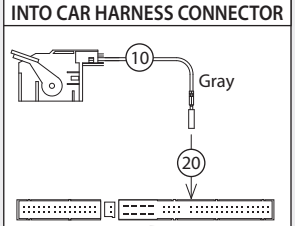
9

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



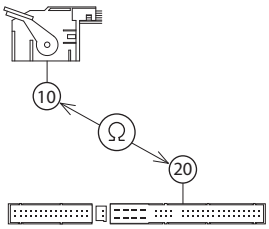
10

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



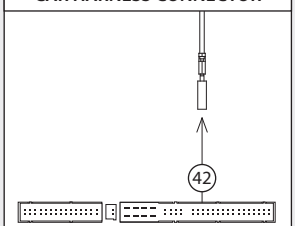
11

CHECK CONTINUITY



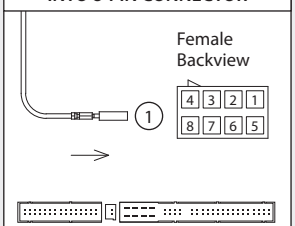
12

SEPARATE PIN FROM CAR HARNESS CONNECTOR



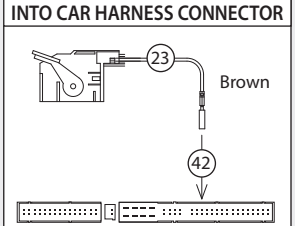
13

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



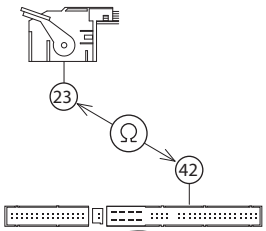
14

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



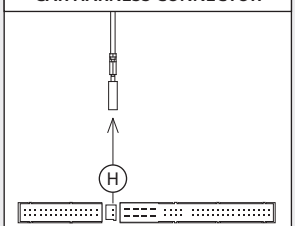
15

CHECK CONTINUITY



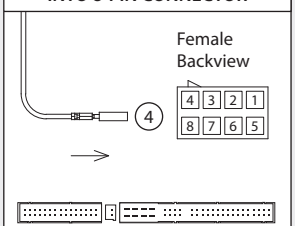
16

SEPARATE PIN FROM CAR HARNESS CONNECTOR



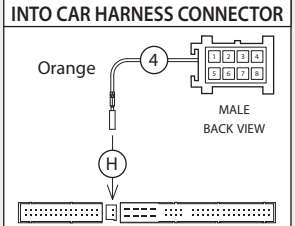
17

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



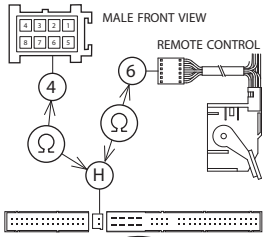
18

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



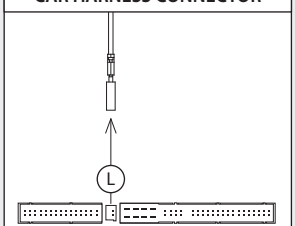
19

CHECK CONTINUITY



20

SEPARATE PIN FROM CAR HARNESS CONNECTOR



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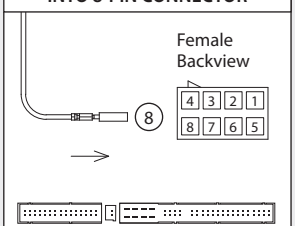
INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



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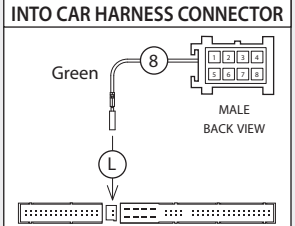
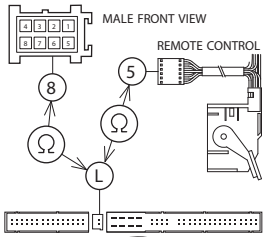
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



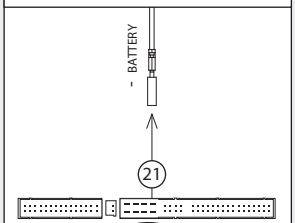
23

CHECK CONTINUITY



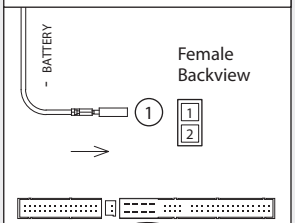
24

SEPARATE PIN FROM CAR HARNESS CONNECTOR



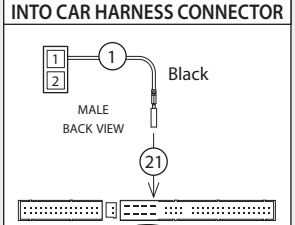
25

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



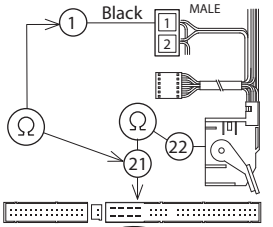
26

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



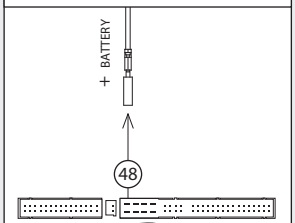
27

CHECK CONTINUITY



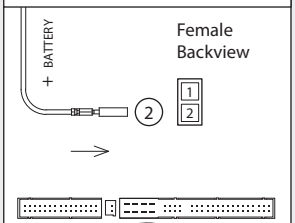
28

SEPARATE PIN FROM CAR HARNESS CONNECTOR



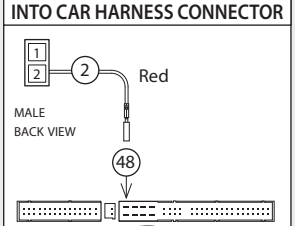
29

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



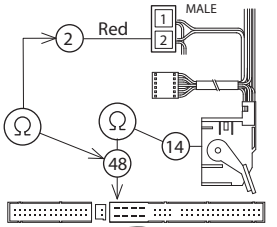
30

INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



31

CHECK CONTINUITY



32

Unscrew the Suspension Module screws and remove the cover

33

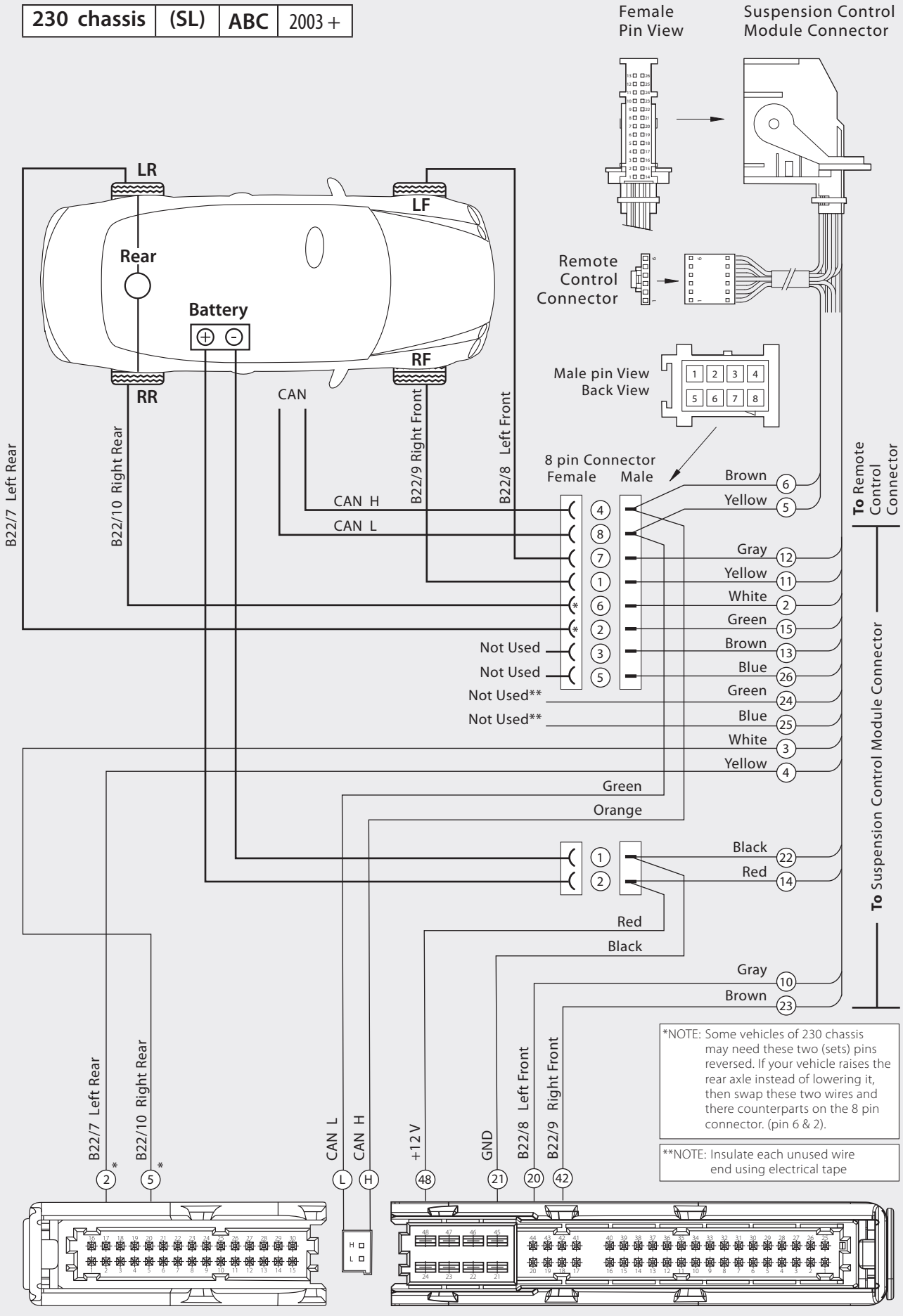
Rotate the Function Switch (black button) to position 2

34

To continue, go to Height Adjustment chapter

35

230 chassis	(SL)	ABC	2003 +



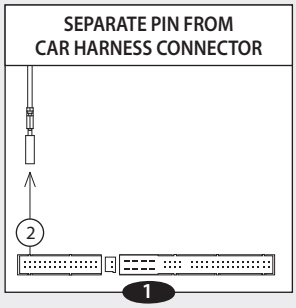
Airmatic Harness, Female Pin View

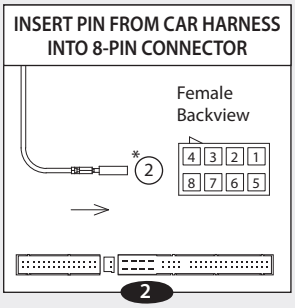
STEP-BY-STEP INSTALLATION

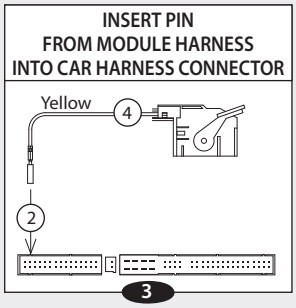
230 chassis: ABC (N51/2) active body control

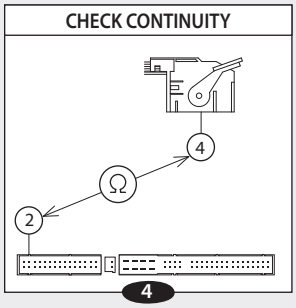
Near steering column Interior, left footwell

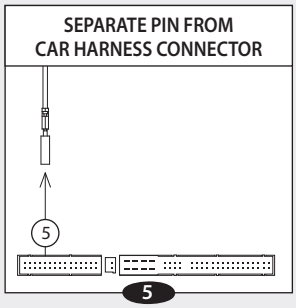
Refer to Vehicle's Connector Preparation for pin removal - see pages 24-25.

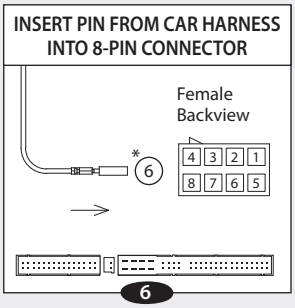


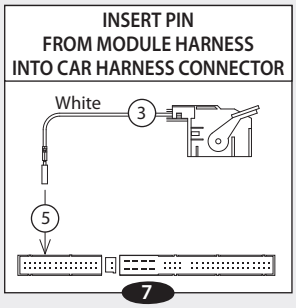


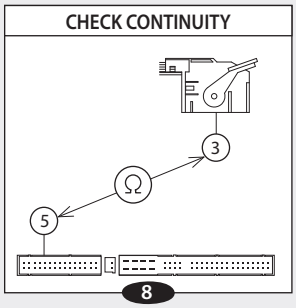


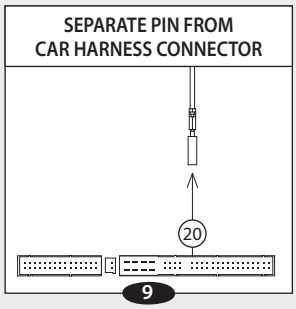


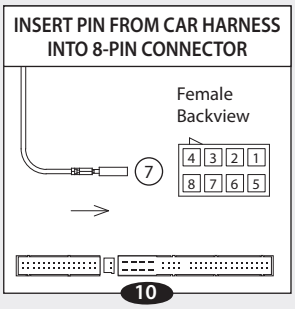


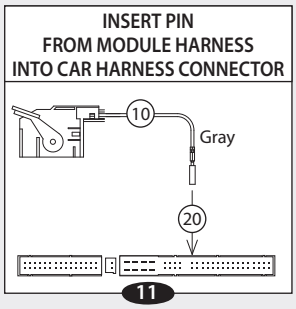


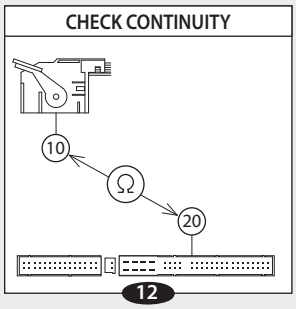


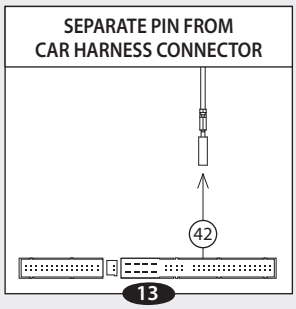


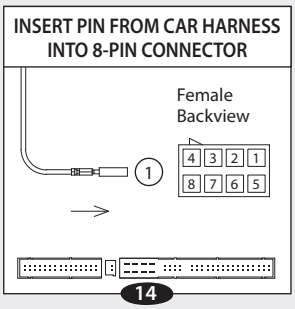


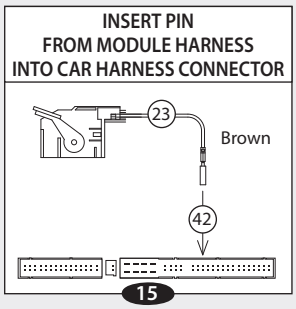


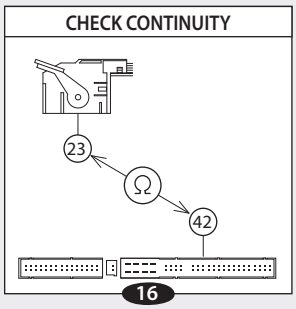




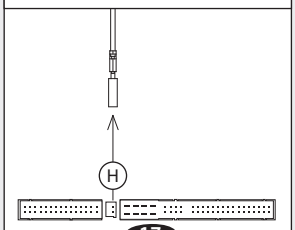






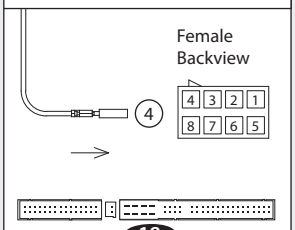


SEPARATE PIN FROM CAR HARNESS CONNECTOR



17

INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



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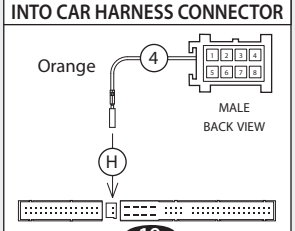
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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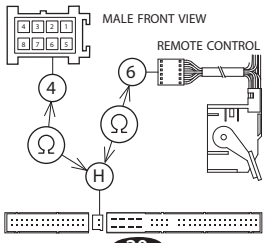
CHECK CONTINUITY



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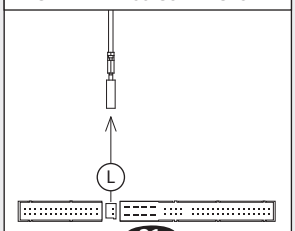
SEPARATE PIN FROM CAR HARNESS CONNECTOR



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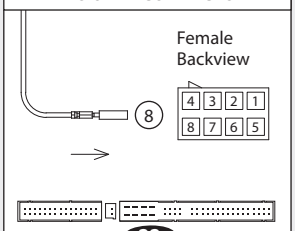
INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



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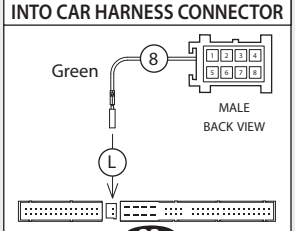
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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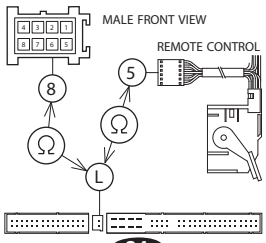
CHECK CONTINUITY



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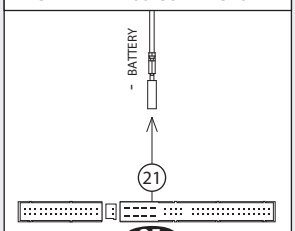
SEPARATE PIN FROM CAR HARNESS CONNECTOR



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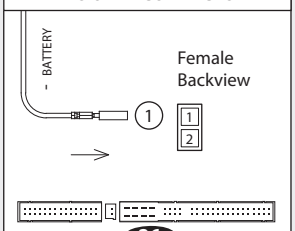
INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



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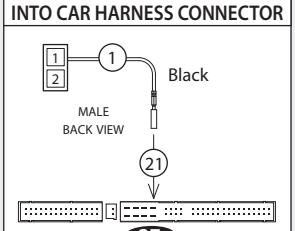
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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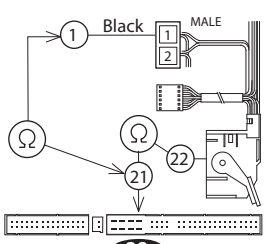
CHECK CONTINUITY



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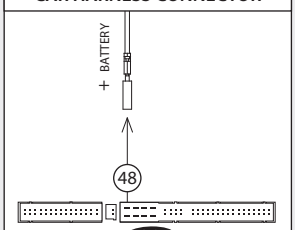
SEPARATE PIN FROM CAR HARNESS CONNECTOR



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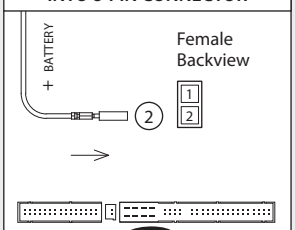
INSERT PIN FROM CAR HARNESS INTO 8-PIN CONNECTOR



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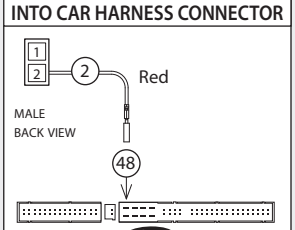
INSERT PIN FROM MODULE HARNESS INTO CAR HARNESS CONNECTOR



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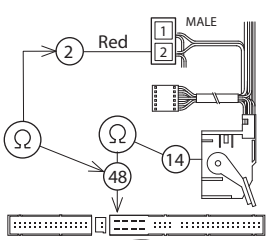
CHECK CONTINUITY



32

Unscrew the Suspension Module screws and remove the cover

33

Rotate the Function Switch (black button) to position 2

34

To continue, go to Height Adjustment chapter

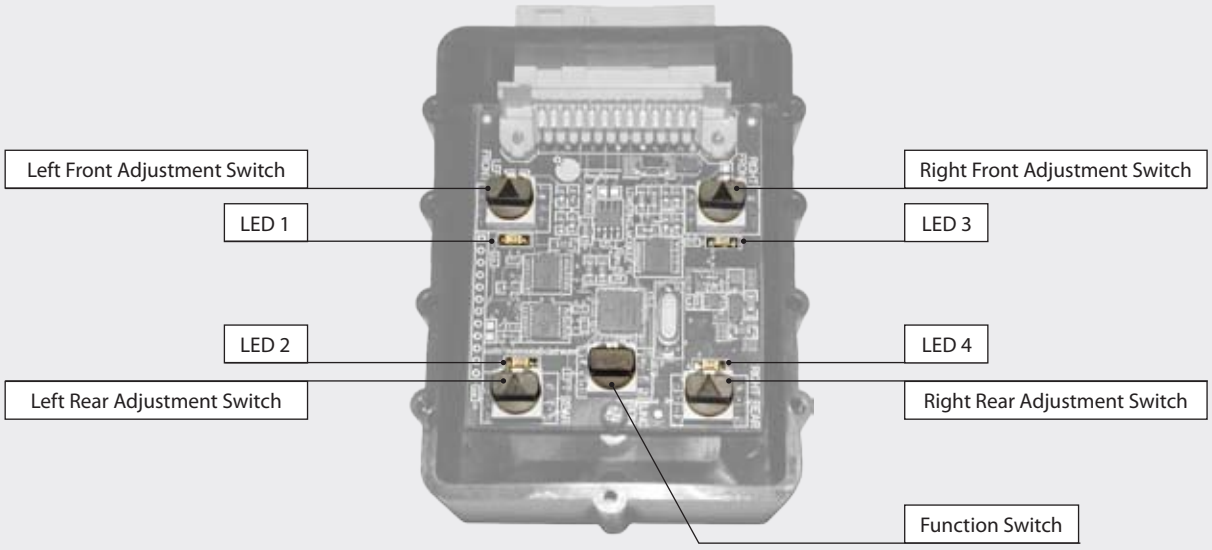
35

Ride Height Adjustment

1. Rotate all four Wheel Height Adjustment Switches (gray buttons) to position 3 (medium height).
2. Plug in the Suspension Control Module.
3. Reconnect the battery. Green LEDs in the Suspension Module should blink.
4. Cycle the ignition key On then Off (do not start the engine).
5. Start the engine. Make sure you are parked on an even surface.
6. Press the factory Vehicle Height button (button LED On). Wait up to 20 seconds until vehicle raises.
7. Press the button again to lower the vehicle (button LED on the button will turn Off). Wait up to 20 seconds.
8. Adjust individual Wheel Height Adjustment Switches if required (to see the height changing, perform the next step).
9. Cycle the Vehicle Height button again (button LED On then Off), with up to 20 seconds in-between.
10. If still not satisfied, go back to step 8.
11. Replace the Suspension Module cover.
12. Congratulations! The vehicle has been lowered.

Function Switch (see installation instructions):

0 = Suspension Module Off (LEDs 1, 2, 3, 4 stay On)
1 = Suspension Module On (LED 4 is ON, LEDs 1, 2, 3 blink)
2 = Suspension Module On (LED 4 is ON, LEDs 1, 2, 3 blink)
3 = Suspension Module On (LEDs 1, 2, 3, 4 blink)
4, 5, 6, 7 = Suspension Module Off (LEDs 1, 2, 3, 4 stay On)

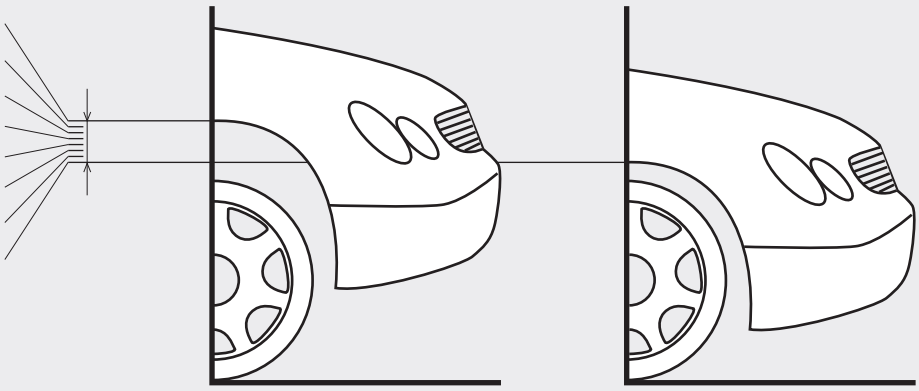


NOTES:

- **If a Remote Control is being used, refer to the operating instructions in its user manual.**
- It is quite common that even before the installation individual wheels are not at the same level. This is more noticeable when the vehicle is lowered. Small differences can be manually adjusted by rotating the individual Wheel Switches. Larger differences should be corrected at the dealer using proper equipment and procedure. Before going to the dealer, remember to turn off the Air Suspension Control Module by rotating the Function Switch (black button) to position 0. Once back from the dealer, rotate the Function Switch back to original position 1 or 2, as described in the Step-by-Step Installation.
- The proceeding lowering values are an approximation and will vary from wheel to wheel and vehicle to vehicle:

Wheel Height Adjustment Switch positions

7:	lower by	3/8"	[10 mm]
6:	lower by	3/4"	[20 mm]
5:	lower by	1"	[25 mm]
4:	lower by	1 1/8"	[30 mm]
3:	lower by	1 3/8"	[35 mm]
2:	lower by	1 1/2"	[40 mm]
1:	lower by	1 3/4"	[45 mm]
0:	lower by	2"	[50 mm]



Vehicle's Connector Preparation

DISCONNECTING the 26 pin connector from the lowering module

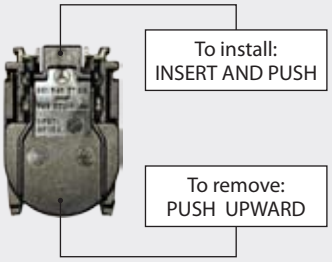
CONNECTING the 26 pin connector to the lowering module

30 pin and 48 pin Connector Dissasembly

Remove cap by pushing and removing housing from plug by unlocking the **two latch**es **on** the **sides of** the housing. Then slide header outward.

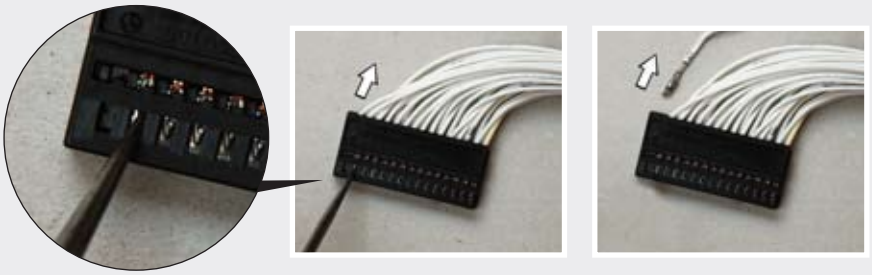
EXTRACTING the pins from the housing

Side Cap Dissasembly and re-assembly



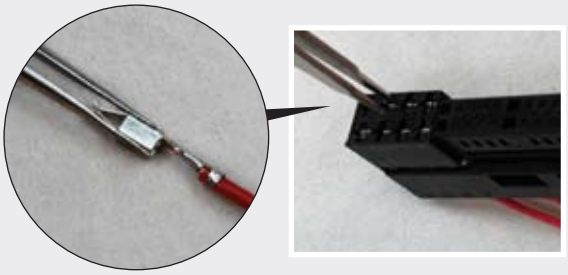
Extracting and Inserting pins

EXTRACTING the smaller pins from the housing



Use HAZET Tool No.: 4663-4
and Handle No.: 4669-4

EXTRACTING the larger pins from car connector

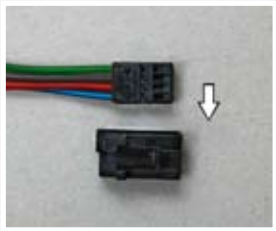


To Remove large pins use
HAZET Tool No.: 4662-4
or a solid thin wire

INSERTING the pins back into the connector housing

In the 30 pin car connector use extraction tools HAZET 4669-4 and 4663-4 or a solid thin wire.

8 PIN FEMALE CONNECTOR



Insert header with wires
into housing

To remove small pins use extraction tool HAZET 4669-4 or a solid thin wire.

Comments

Designed, engineered and manufactured by ProgRama, Inc.
www.programainc.com

LCM-02
M-MIS-90312/2.0